

REMARKS/ARGUMENTS

Reconsideration and allowance in view of the foregoing amendment and the following remarks are respectfully requested.

Claims 1-2 and 4-7 are now pending.

Claims 1-6 were rejected under 35 USC 112, second paragraph, as being indefinite. Claim 1 has been reviewed and revised above to obviate the grounds for this rejection. In this regard, it has been made clear in claim 1 that one of the holes has a longitudinal center line substantially coinciding with the longitudinal center line of the elastic member. Reconsideration and withdrawal of the rejection is requested.

Original claim 1, 2, 5 and 6 were rejected under 35 USC 103(a) as being unpatentable over Ohta et al in view of Leach. Furthermore, original claims 3 and 4 were rejected under 35 USC 103(a) as being unpatentable over Ohta et al as modified by Leach and further in view of Watanabe. Applicant respectfully traverses these rejections.

The present invention relates to a gas sensor designed to have an increased member of lead wire through holes without increasing the diameter of the gas sensor. As explained in the Background of the Invention section, a conventional gas sensor provides holes for lead wires disposed in a peripheral array such as a square as shown in applicant's prior art Figure 6. If the number of holes is increased without decreasing the distance between adjacent holes and between an outer periphery of the elastic insulator and each of the holes, a gas sensor of increased size results, which is disadvantageous. If the distance between adjacent holes and/or the distance between the outer periphery of the elastic insulator and each of the holes is decreased then when the structure is crimped, compressive stress arising from the crimping concentrates at the thinned walled portion of the elastic insulator leading to a reduction in sealing ability.

The invention provides an improved structure of a rubber bush (i.e., an elastic member) which has a large number of through holes 41 and 42 for lead wires 40 formed therein and which is smaller in diameter, but ensures a desired degree of hermetic sealing between the rubber bush and the lead wires 40. In accordance with applicant's proposed configuration, one of the through holes (i.e., hole 41) is formed to extend along a longitudinal center line of the rubber bush 4, so that it may uniformly undergo inward compressive pressures produced by crimping the cover, thereby ensuring proper hermetic sealing between the lead wires and the holes. Claim 1 has been amended above to further include *inter alia* the limitations of previously presented dependent claim 3, to specify a minimum distance between adjacent holes and between the outer periphery of the elastic member and the holes. The crimping limitation previously introduced in claim 2 has also been added to claim 1. It is respectfully submitted that the combination recited in applicant's claim 1 is not anticipated by nor obvious from the prior art cited by the Examiner.

Indeed, Ohta discloses a structure in Figure 11, in which four lead wires 11 extend from the sensor element 1 and pass through insulating pipe 15, bush 16 made of fluorine-containing rubber, and heat resistant rubber member 17. As noted by the Examiner, however, Ohta does not illustrate or in any way describe a positional relation between the lead wires 11 within the bush 16. Therefore, in the absence of a teaching to the contrary, it is respectfully submitted that the skilled artisan would understand and interpret Ohta as providing a conventional, peripheral lead wire distribution as illustrated for example in applicant's prior art Figure 6. The Examiner asserts, on the contrary, that in view of Leach it would be "obvious" to provide a lead centrally located, since lead 30 is shown centrally located in Leach. Applicant respectfully disagrees.

Leach does not relate to a fuel ratio sensor but rather relates to an electrical connector with a locking wedge. Component 30 is not "a wire-like lead" as asserted by the Examiner but rather is a terminal pin that projects from one face of the electrical connector and corresponds to a lead 31. In contrast to a lead wire holes through a bush

as provided in Ohta, the connector structure of Leach provides a connector body 12 (not a rubber bush) that does not undergo any compressive pressure. Thus, the distribution of leads 31 and 33 and terminal pins 30 and 32 in Leach is completely non-analogous to the provision of a rubber bush and lead wires/holes in a gas sensor. The distribution of pins 30 and 32 in Leach is provided purely for convenience and the sealing, compressive force and spacing issues associated with lead wires through a rubber bush in a gas sensor simply do not apply to Leach.

Thus, the skilled artisan would recognize that Leach does not provide any teaching relevant to the Ohta gas sensor and does not motivate the skilled artisan to rearrange the lead wires of Ohta so as to meet the limitations of applicant's claims.

The Examiner's further reliance on Watanabe does not overcome the deficiencies of the Ohta/Leach combination. On the contrary, Watanabe teaches away from the Examiner's proposed modification of Ohta in view of Leach. In this regard, Watanabe illustrates in Figures 3 and 5-7 lead wire through hole configurations for two to five lead wires. In each case the lead wire holes are defined in a peripheral configuration. Thus, Watanabe clearly teaches to the skilled artisan that the leads of Ohta should be distributed in a peripheral pattern through the bush.

The Examiner cites Watanabe as teaching values t_2 and t_1 and also as teaching the provision of ribs. However, as noted above, the Watanabe reference also provides clear and specific teachings as to lead wire hole distribution. It is respectfully submitted that the Examiner cannot properly select isolated teachings of Watanabe, such as lead hole spacing and the provision of ribs, while disregarding Watanabe's very clear teachings on lead hole placement.

Section 103 does not allow the Examiner to engage in picking and choosing from the prior art only to the extent that it will support a holding of obviousness, while excluding parts of the prior art essential to the full appreciation of what the prior art suggests to one of ordinary skill in the art. In re Wesslau, 147 USPQ 391 (CCPA 1975).

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Because Leach is non-analogous to and provides no teachings relevant to a gas sensor of the type taught by Ohta, and further because Watanabe clearly teaches away from the present invention, it is respectfully submitted that the prior art combinations advanced by the Examiner do not anticipate nor render obvious the invention. It is further respectfully submitted that the Examiner's rejections under 35 USC 103 are improper and should be withdrawn.

All objections and rejections having been addressed, it is respectfully submitted that the present application is in condition for allowance and an early Notice to that effect is earnestly solicited.

Respectfully submitted,

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